

**CAMPYLOBACTER GLYCOSYLTRANSFERASES FOR
BIOSYNTHESIS OF GANGLIOSIDES AND GANGLIOSIDE MIMICS**

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ABSTRACT OF THE DISCLOSURE

10 This invention provides prokaryotic glycosyltransferases, including a
bifunctional sialyltransferase that has both an α 2,3- and an α 2,8-activity. A β 1,4-GalNAc
transferase and a β 1,3-galactosyltransferase are also provided by the invention, as are other
glycosyltransferases and enzymes involved in synthesis of lipooligosaccharide (LOS). The
glycosyltransferases can be obtained from, for example, *Campylobacter* species, including
C. jejuni. In additional embodiments, the invention provides nucleic acids that encode the
glycosyltransferases, as well as expression vectors and host cells for expressing the
glycosyltransferases.

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